

The Office has objected to the specification as not containing brief individual descriptions for each drawing figure. In response, Applicant has amended paragraph 14 of the specification to provide a brief description for each Figure.

Double Patenting

The Office has provisionally rejected claims 1-39 under the doctrine of double patenting over the claims of co-pending applications 09/704,228 and 09/898,519. The Office argues that although the claims are not identical, they are not patentably distinct from each other because “contoured” and “shaped” are not patentably distinct. The Office notes that the claims of the co-pending applications have additional structural components, but that the pending claims are covered by the “comprising” language in the co-pending claims. Finally, the Office contends that attaching unspecified further components is not a patentable distinction because it would have been obvious.

Applicant respectfully disagrees with this rejection. In noting that the present claims and the claims in the co-pending application are not identical, the Office has admitted that this double patenting rejection is not a statutory-type double patenting rejection. *See M.P.E.P. §804(II)(A)*. Thus, the remaining bases for a double patenting rejection is an “obviousness-type” double patenting [M.P.E.P. §804(II)(B)(1)] or of the type set forth in M.P.E.P. §804(II)(B)(2). Both of these bases, however, require some consideration of why the claims in the present application would have not been obvious in light of the claims in the co-pending applications. The Office, however, has only alleged that such obviousness exists. In other words, the Office has not shown why the skilled artisan would have been motivated to have modified the co-pending claims to arrive at the present claims.

Thus, the Office has not substantiated a sufficient basis for this ground of rejection and Applicant respectfully requests withdrawal of this rejection.

Claim Objections

The Office has objected to claims 1 and 7 as containing a grammatical error. This rejection is moot as these grammatical errors have been corrected.

Rejection – 35 U.S.C. § 112 ¶ 2

The Office has rejected claims 3-11, 19-20, 31-33, and 37 under 35 U.S.C. § 112 ¶ 2 for the reasons listed in pages 4-5 of the Office Action.

1. The Office argues that the claims are indefinite as to what is a “light” and “heavy” metal since there is no official metallurgical standard defining these terms. A fundamental principle contained in 35 U.S.C. § 112 ¶ 2 is that applicant can be his own lexicographer. He can define in the claims what he regards as his invention essentially in whatever terms, provided those terms are not used in ways that are contrary to the accepted meaning in the art. See *M.P.E.P. § 2173.01*. The definiteness of claim language must be analyzed not in a vacuum, but in light of the specification. See *M.P.E.P. § 2173.02*.

In light of these requirements, the Office has not shown that such terminology does not meet these requirements. The claims recite that the metal-containing materials can be a light (or heavy) metal or alloy thereof. The paragraph bridging pages 6 and 7 of the specification describes specific examples of both light and heavy metals. In light of the examples for each type of metal provided in the specification, the skilled artisan would have understood for certain that the exemplified metals in the specification were respectively light or heavy metals. As well,

given the types and numbers of metals disclosed as light and heavy metals, the skilled artisan would also understand the other types of metals that would be light and heavy metals.

Nevertheless, in an effort to expedite prosecution Applicant has amended the claims to remove the term “light” and “heavy” metal.

2. The Office contends that the term “initiator” is not defined in the claims and it is indefinite what is initiated or what is required by that term. Definiteness of terminology in the claims, however, is not analyzed in a vacuum, but in light of the specification. *See M.P.E.P. § 2173.02(A)*. And the specification discusses at great length (pages 24-27 and 36-38) what an initiator is, how it functions, and how it is made.

3. The Office argues that it is indefinite as to how “bent” further limits a “non-straight” configuration. Simply, a bent structure is a specie of the genus non-straight as understood in light of the description of this aspect of the invention in the specification and the Figures. Nevertheless, in an effort to expedite prosecution Applicant has amended the claims to remove this requirement.

For the above reasons, Applicant respectfully requests withdrawal of this rejection.

Rejection – 35 U.S.C. § 102(e) over Logan

The Office has rejected claims 1-2, 4-7, 9-13, 15, 18-20, and 36-39 under 35 U.S.C. § 102 (e) as being anticipated by Logan (U.S. Patent No. 6,227,252), for the reasons listed on pages 5-6 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The Office argues that Logan discloses a hollow contoured structural member comprising a contoured inner layer, an

intermediate honeycomb layer, and a contoured outer layer. The Office, however, has not substantiated that Logan teaches the limitations recited in the independent claims. As detailed above, these claims include the limitation that the structural member has a plurality of contoured inner layers and a plurality of contoured outer layers. Indeed, it would be difficult for the Office to show that Logan discloses such limitations in light of the fact that the structural member of Logan contains inner pipe 13 and outer pipe 14, both of which contain a single, solid layer.

The Office recognizes that Logan does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product, the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, only then does the burden shift to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Logan.

For the above reasons, the Office has not substantiated that Logan anticipates claims 1-2, 4-7, 9-13, 15, 18-20, and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Wilkinson

The Office has rejected claims 1-2, 5-7, 10-13, 15, 18-20 and 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Wilkinson (U.S. Patent No. 4,161,231), for the reasons listed on pages 6-7 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The Office, however, has not substantiated that Wilkinson teaches such limitations. Indeed, it would be difficult for the Office to show that Wilkinson discloses such limitations in light of the fact that the structural member contains outer skin plates 26a which are constructed from a number of pieces with each piece covering a respective honeycomb member 24, thereby forming a single layer.

The Office recognizes that Wilkinson does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Wilkinson.

For the above reasons, the Office has not substantiated that Wilkinson anticipates claims 1-2, 5-7, 10-13, 15, 18-20 and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(a) over Ohrn

The Office has rejected claims 1-7, 9-13 and 16 under 35 U.S.C. § 102 (a) as being anticipated by Ohm (U.S. Patent No. 6,116,290), for the reasons listed on page 7 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The Office, however, has not substantiated that Ohm teaches such limitations recited in claim 14, notably that the structural member has an inner and outer section with a plurality of contoured layers.

For the above reasons, the Office has not substantiated that Ohm anticipates claims 1-7, 9-13 and 16. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Mann

The Office has rejected claims 1-13, 15, and 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Mann (U.S. Patent No. 3,332,446), for the reasons listed on pages 7-8 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. Citing Figures 1-2, the Office argues that Mann discloses a hollow contoured structural member comprising a contoured inner layer, an intermediate wrapped ribbed structure layer, and a contoured outer layer. The Office, however, has not substantiated that Mann teaches the claimed limitations mentioned above. Indeed, it would be difficult for the Office to show that Mann discloses such limitations in light of how inner tubing 12 and the outer tubing 16 are formed using a forming die, e.g., a flat sheet of tubing is pulled through a suitable form which bends it into a cylindrical configuration after



which the edges of the cylinder are butt welded together. See column 2, lines 50-62 and column 3, lines 30-40.

The Office recognizes that Mann does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Mann.

For the above reasons, the Office has not substantiated that Mann anticipates claims 1-13, 15, and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Frease

The Office has rejected claims 1-2, 5-7, 10-13, 15, and 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Frease (U.S. Patent No. 1,677,714), for the reasons listed on pages 8-9 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. Citing Figures 1-5, the Office argues that Frease discloses a hollow contoured structural member comprising a contoured inner layer, an intermediate wrapped ribbed structure layer, and a contoured outer layer. The Office, however, has not substantiated that Frease teaches the limitations mentioned above, e.g., a

plurality of contoured inner layers and a plurality of contoured outer layers. Indeed, it would be difficult for the Office to show that Frease discloses such limitations in light of the fact that none of Figures 1-5 illustrates more than a single layer for the inner tube 12 and the outer tube 11.

The Office recognizes that Frease does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Frease.

For the above reasons, the Office has not substantiated that Frease anticipates claims 1-2, 5-7, 10-13, 15, and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Miyajima

The Office has rejected claims 1-20 and 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Miyajima (U.S. Patent No. 5,256,969), for the reasons listed on page 9 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The Office, however, has not substantiated that Miyajima teaches the limitations mentioned above, e.g., a plurality of

contoured inner layers and a plurality of contoured outer layers. Indeed, it would be difficult for the Office to show that Miyajima discloses such limitations in light of its disclosure.

The Office recognizes that Miyajima does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Miyajima.

For the above reasons, the Office has not substantiated that Miyajima anticipates claims 1-20 and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 102(b) over Jonda

The Office has rejected claims 1-2, 5-14, 18-20, and 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Jonda (U.S. Patent No. 4,025,675), for the reasons listed on page 10 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The Office, however, has not substantiated that Jonda teaches the limitations mentioned above, e.g., a plurality of contoured inner layers and a plurality of contoured outer layers. Indeed, it would be difficult for the Office to show that Jonda discloses such limitations in light of its disclosure.

The Office recognizes that Jonda does not disclose the same process steps, but argues that these claims are product claims and where there is a substantially similar product the burden of proof is shifted to the applicant to establish that his product is patentably distinct. Applicant respectfully disagrees with the Office's rationale. M.P.E.P § 2113 requires that once the Office provides a rationale showing that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evidence of the unobvious difference between the claimed product and the prior art. As noted above, the Office has not come forward with a rationale showing that the claimed product appears to be the same as or similar to the structural member of Jonda.

For the above reasons, the Office has not substantiated that Jonda anticipates claims 1-2, 5-14, 18-20, and 36-39. Accordingly, Applicant requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 103 over Logan

The Office has rejected claims 1-24, 31-33, and 36-39 under 35 U.S.C. § 103 as being unpatentable over Logan for the reasons listed on pages 11-12 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. Applicant has detailed above why the Office has not substantiated that Logan teaches such limitations. And the Office has not shown that the skilled artisan would have considered such limitations obvious in light of the disclosure of Logan.

For the above reasons, the Office has not substantiated that the skilled artisan would have considered claims 1-24, 31-33, and 36-39 obvious in light of Logan. Accordingly, Applicant requests withdrawal of this rejection.

Rejection – 35 U.S.C. § 103 over Frease

The Office has rejected claims 1-24, 31-33, and 36-39 under 35 U.S.C. § 103 (a) as being unpatentable over Frease in view of Ohn, for the reasons listed on pages 13-14 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. Applicant has detailed above why the Office has not substantiated that neither Frease nor Ohn teaches the limitations in these claims. And the Office has not shown that the skilled artisan would have considered such limitations obvious in light of the disclosure of Frease or Ohn. Nor has the Office shown that the skilled artisan would have been motivated to combine their disclosures to arrive at limitations that neither of them teach or suggest individually.

For the above reasons, the Office has not substantiated that the skilled artisan would have considered claims 1-24, 31-33, and 36-39 obvious in light of Frease. Accordingly, Applicant requests withdrawal of this rejection.

Rejection – 35 U.S.C. § 103 over Cappa

The Office has rejected claims 1-24 and 31-39 under 35 U.S.C. § 103 as being unpatentable over Cappa (U.S. Patent No. 5,848,767) for the reasons listed on pages 14-15 of the Office Action. Applicant respectfully traverses this rejection.

As noted above, all of the independent claims currently recite a structural member comprising a plurality of contoured inner layers and a plurality of contoured outer layers. The inner layers and outer layers are formed by a roll-wrapping process. As described in the specification, a roll wrapping process quickly wraps successive layers of material to form the inner and outer sections. Indeed, in one aspect of the roll wrapping process, a continuous sheet of material is used to “roll” and form the successive layers.

Cappa, however, forms a structural member by using separate sheets 44 of material. Each sheet 44 of material is “applied separately” and compacted under a vacuum for 10 minutes before any other sheet 44 is applied. *See column 5, lines 47-49.* By using separate sheets to form the inner and outer parts of the structural member, Cappa uses a different method that is more time consuming, less efficient, and more expensive. By using a different method, Cappa also obtains a different (and inferior) product than that obtained using the present invention.


For the above reasons, the Office has not substantiated that the skilled artisan would have considered claims 1-24 and 31-39 obvious in light of Cappa. Accordingly, Applicant requests withdrawal of this ground of rejection.

CONCLUSION

For the above reasons, applicant respectfully requests the Office to withdraw the above grounds of rejection and allow the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 18-0013.

Respectfully Submitted,

By 
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Date: December 20, 2002

APPENDIX A: AMENDMENT TO SPECIFICATION

Please delete paragraph 14 in its entirety and replace it with the following paragraph:

--[14] Figures 1-20, 20A, 21, 21A, and 22-24 are views of structural members and methods of making the same according to the present invention, in which:

Figure 1 illustrates a structural member in one aspect of the invention;

Figure 2 illustrates a plurality of layers in the inner or outer portion of the structural member in one aspect of the invention;

Figure 3 illustrates exemplary configurations of the ribbed structure of the intermediate portion of the structural member in one aspect of the invention;

Figure 4 illustrates exemplary configurations of the structural member in one aspect of the invention;

Figure 5 illustrates one process for making the structural member in one aspect of the invention;

Figure 6 illustrates the lay-up of individual layers in the inner or outer portion of the structural member in one aspect of the invention;

Figures 7-9 illustrate several processes for making the structural member in various aspects of the invention;

Figures 10 and 11 illustrate exemplary configurations of the structural member in one aspect of the invention;

Figures 12-14 illustrate exemplary structural members in several aspects of the invention;

Figure 15 illustrates one process for making the structural member in one aspect of the invention;

Figures 16-17 depicts cross various configurations of the structural members in various aspects of the invention;

Figures 18-19 illustrate structural members in other aspects of the invention; and

Figures 20 and 20A illustrate processes for making the structural member in one aspect of the invention;

Figures 21 and 21A illustrate processes for making the structural member in one aspect of the invention; and

Figures 22-24 depicts processes for making the structural member in one aspect of the invention.

Figures 1-20, 20A, 21, 21A, and 22-24 presented in conjunction with this description are views of only particular—rather than complete—portions of the structural members and methods of making the same according to the invention.--

APPENDIX B: AMENDMENT TO CLAIMS

1. (Amended) A shaped contoured structural member, comprising:
[at least one contoured] an inner [layer] section containing a plurality of contoured layers
comprising a composite material or a metal-containing material;
[at least one contoured] an outer [layer] section containing a plurality of contoured layers
comprising a composite material or a metal-containing material; and
at least one intermediate layer having a ribbed structure connecting the [at least one] inner
[layer] section and the [at least one] outer [layer] section.
3. (Amended) The structural member of claim 1, wherein the [metal-containing material
is a light metal or alloy thereof] plurality of the layers in the inner section contains both a layer of
a composite material and a layer of a metal-containing material.
4. (Amended) The structural member of claim 1, wherein the [metal-containing material
is a heavy metal or alloy thereof] plurality of the layers in the outer section contains both a layer
of a composite material and a layer of a metal-containing material.
5. (Amended) The structural member of claim 2, wherein the [substantially non-straight
configuration is a bent configuration] metal-containing material is a metal alloy.
7. (Amended) A substantially non-straight structural member, comprising:
[at least one contoured] an inner [layer] section containing a plurality of contoured layers
comprising a composite material or a metal-containing material;
[at least one contoured] an outer [layer] section containing a plurality of contoured layers
comprising a composite material or a metal-containing material; and
at least one intermediate layer having a ribbed structure connecting the [at least one] inner
[layer] section and the [at least one] outer [layer] section.

8. (Amended) The structural member of claim 7, wherein the [metal-containing material is a light metal or alloy thereof] plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material.

9. (Amended) The structural member of claim 7, wherein the [metal-containing material is a heavy metal or alloy thereof] plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material..

10. (Amended) The structural member of claim 7, wherein the [substantially non-straight structural member has a bent configuration] metal-containing material is a metal alloy.

18. (Amended) A bent structural member, comprising:

[at least one contoured] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

[at least one contoured] an outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and

at least one intermediate layer having a honeycomb structure connecting the [at least one] inner [layer] section and the [at least one] outer [layer] section.

21. (Amended) A method for making a shaped, contoured structural member, comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer.

22. (Amended) The method of claim 21, including providing the [at least one] inner [layer] section by roll wrapping the [at least one] inner [layer] section over [a substrate] the mandrel.

23. (Amended) The method of claim 22, including providing the [at least one] outer [layer] section by roll wrapping the [at least one] outer [layer] section over the at least one intermediate layer.

26. (Amended) The method of claim 25, further including constraining the [at least one] outer [layer] section when connecting the [at least one] inner and [at least one] outer [layer] sections to the at least one intermediate layer prior to removing the [substrate] mandrel.

27. (Amended) The method of claim 26, including constraining the [at least one] outer [layer] section by roll wrapping at least one layer of a shrink-wrap material over the [at least one] outer [layer] section.

29. (Amended) The method of claim 27, further including providing at least one pressure distributor over the [at least one] outer [layer] section.

31. (Amended) A method for making a shaped, contoured structural member, comprising:
providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially straight mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section,
the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer,
the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the [at least one] inner [layer] section, at least one intermediate layer, and the [at least one] outer [layer] section to a substantially non-straight shape; and

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer.

33. (Amended) The method of claim 31, including modifying the shape and connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer at substantially the same time.

34. (Amended) A method for making a shaped, contoured structural member, comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer [portion] section with a shrink-wrap material;

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer; and

removing the shrink-wrap material and the [substrate] mandrel.

35. (Amended) A method for making a shaped, contoured structural member, comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially-straight mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the [at least one] inner [layer] section, at least one intermediate layer, and the [at least one] outer [layer] section to a substantially non-straight shape;

constraining the outer [portion] section with a shrink-wrap material;

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer; and

removing the shrink-wrap material and the [substrate] mandrel.

36. (Amended) A shaped, contoured structural member made by the method comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section comprising a composite material or a metal-containing material; and

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer.

37. (Amended) A shaped, contoured structural member made by the method comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially straight mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the [at least one] inner [layer] section, at least one intermediate layer, and the [at least one] outer [layer] section to a substantially non-straight shape; and

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer.

38. (Amended) A shaped, contoured structural member made by the method comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer portion with a shrink-wrap material;

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer; and

removing the shrink-wrap material and the [substrate] mandrel.

39. (Amended) A shaped, contoured structural member made by the method comprising:

providing [at least one] an inner [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially straight mandrel;

roll wrapping at least one intermediate layer over the [at least one] inner [layer] section, the at least one intermediate layer having a ribbed structure;

providing [at least one] an outer [layer] section over the at least one intermediate layer, the [at least one] outer [layer] section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the [at least one] inner [layer] section, at least one intermediate layer, and the [at least one] outer [layer] section to a substantially non-straight shape;

constraining the outer [portion] section with a shrink-wrap material;

connecting the [at least one] inner and outer [layer] sections to the at least one intermediate layer; and

removing the shrink-wrap material and the substrate.